

# High-tech tools come to dentistry

## Cavities can be treated with lasers that silently vaporize tooth decay

By POPULAR MECHANICS

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New-age dentistry has abandoned the dreaded drill in favor of a laser that is making pain obsolete.

The dental laser beam is delivered in pulses that don't last long enough to trigger a pain nerve, according to an article in the current issue of Popular Mechanics, and it is only one of the high-tech tools working toward painless dentistry.

In the past, dentistry has been nearly synonymous with pain and as a result 30 to 40 million Americans ignore dental checkups sometimes until they start losing teeth.

After years of research neglect, new systems are finally reaching dentistry. Cavities can be treated with lasers that silently vaporize tooth decay, patients have their teeth checked by an X-ray probe that instantly creates crystal-clear pictures without film and crowns can be made by computer-controlled milling machines, eliminating the need for goo-filled biteplates.

If all this fails, unsalvageable teeth can be replaced with titanium implants that are stronger

than natural teeth.

What may make dental X-ray film obsolete is a new technology called radiovisiography, developed by Dr. Francis Moyen and manufactured in France. Its high-resolution images improve the

tional dentist's drills are absent.

In addition, the laser beam is delivered in pulses that last only 30-trillionths of a second, less than the time needed to trigger a pain nerve.

If a tooth is beyond repair, an

false tooth that is as strong as the real thing.

Because of the high cost of implants, \$1,500 to \$2,000 per tooth — most people still opt for crowns and bridges and there are 30 million crowns cast in the United States each year.

Future dental technologies now are being tested on a "motor mouth" — the dental researcher's equivalent of a crash dummy. It's a hydraulically powered artificial mouth that simulates the complex forces of human chewing.

Test teeth in the artificial mouth are mounted in an environmental chamber, which is fully enclosed, and then exposed to a continuous flow of fluid as the hydraulically powered artificial jaws grind away.

"We can bring in artificial saliva, we can use natural saliva, or we can just use distilled water, since most of your saliva is water and that seems to function very well. It's also less messy," said Dr. Ralph DeLong, who, with Dr. William Douglas, developed the motor-mouth.

The operators of the artificial mouth have used it to test amalgam fillings, porcelain teeth, new dental composites and other materials.

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dentists' ability to make accurate diagnoses while reducing the radiation to which patients and technicians are exposed.

Once a cavity is found, there's the American Dental Laser, the first approved by the Food and Drug Administration for dental use.

Patients report experiencing less pain when being operated on with the dental laser than with drills. Part of the reason is that the laser does not cause many of the psychological components of pain. The whining noise and vibrations associated with conven-

expensive but increasingly popular alternative to dentures is the titanium dental implant, a remarkably strong, naturally functioning permanent prosthesis.

The dentist drills a hole in your jaw at the site of the missing tooth and fills it with a tight-fitting titanium cylinder. Within three to six months, the bone and gum tissue grow around the cylinder, anchoring it firmly in place.

At this point, the top of the implant is surgically exposed and an artificial tooth made of porcelain or plastic resin is bolted to the implant. This results in a

## ny class anymore

or a bus recently at Quincy Center. "What are they going to do, put kids in cells? Who's going to pay for that?" But Sheets stands his ground.

### its mouth washed

he city wants to turn the area into a historic park to attract tourists, and he wants the air clean.

City Solicitor Stephen McGrath said that while the old ordinance was too broad to be effective, the new measure deals specifically with people who accost others with foul language on city property. It also allows police to arrest people for loitering and other rowdy behavior, while the old law does not, he said.

Sheets said the ordinance is designed "for someone who walks up to a senior citizen on a bench and screams at them. I've seen that happen."

Researchers say young people may have simply become inured to all the foul talk.

Timothy Jay, a psychology professor at North Adams State Col-

have lost their punch.

"We've had a few very nasty words in the past that used to be reserved for very upsetting occasions," Arman said. "Nowadays, we use them if we break a pencil. Once the terms have been drained of their force, they're lost."

Aman believes that oppressed societies with few weapons compensate by developing a powerful swearing vocabulary. But citizens of violent, powerful nations like our own are pathetic cussers, he said.

But still we swear, and with increasing frequency.

"We are much more stressed out," Aman said. "People are losing their jobs, they can't make ends meet. And women have increased their use of profanity, since they're in the workplace now. They weep less and cuss more."

Profanity can act as a safety valve when people curse to let off steam instead of resorting to physical violence, Aman said.

"(Sigmund) Freud said to his daughter, 'The first man who hurled a curse instead of a weapon at his enemy was the founder of civilization.'"

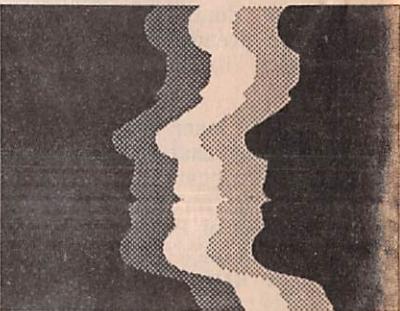
But too much cursing becomes

## They've had cancer and are happy to be alive

*Editor's Note: Four friends for life, Stephanie Rauk, Carol Crain, LeeAnn Wehr and B.J. Lee have found that they need each other as they need no one else. They have had breast cancer. The final Part 3 follows:*

By TAD BARTIMUS  
Associated Press

All four friends except Ms. Lee have finished chemotherapy and are regaining physical strength. They are groping their way back from the edge of an abyss, putting memories of operating room lights and intravenous tubes and a thousand needle pricks behind them as



### Friends for Life

said Mrs. Crain.

Mrs. Wehr was with her friend during her final days, and said Ann's death was one of the reasons she signed up to be a volunteer for the cancer society's Reach for Recovery program.

She also said Mrs. Day's death "made me want to share with this group even more, to help other women go through this ordeal, because it's so important to pass on these tremendous lessons I've learned."

To Mrs. Rauk, Ann Day's struggle against breast cancer "was like watching a boat move away from you, real slow. You don't want to pull it back but you still feel that sense of loss, that sense of grief. But as a hospice nurse, I know that

### Part 3

they try to find a new lifestyle that suits the lessons they've learned. Each knows nothing will ever be the same since the day she found a lump in her breast.

And there is an emptiness in their lives: When the group started there were five women, not four. But the statistics caught up with them. On Sept. 18, after a three-